



Raytheon

Customer Success Is Our Mission



Indiana Grand Challenge Definition Workshop

Space Defense Electronics

February 5, 2008

Welcome: Introductions & POCs

- Dr. Don Takehara – Taylor University
- Mr. Brose McVey – NexPointe
- Mr. Charles Kille – Raytheon
- Mr. Robert Hein – Raytheon
- *Mr. Timothy Morris – Raytheon*

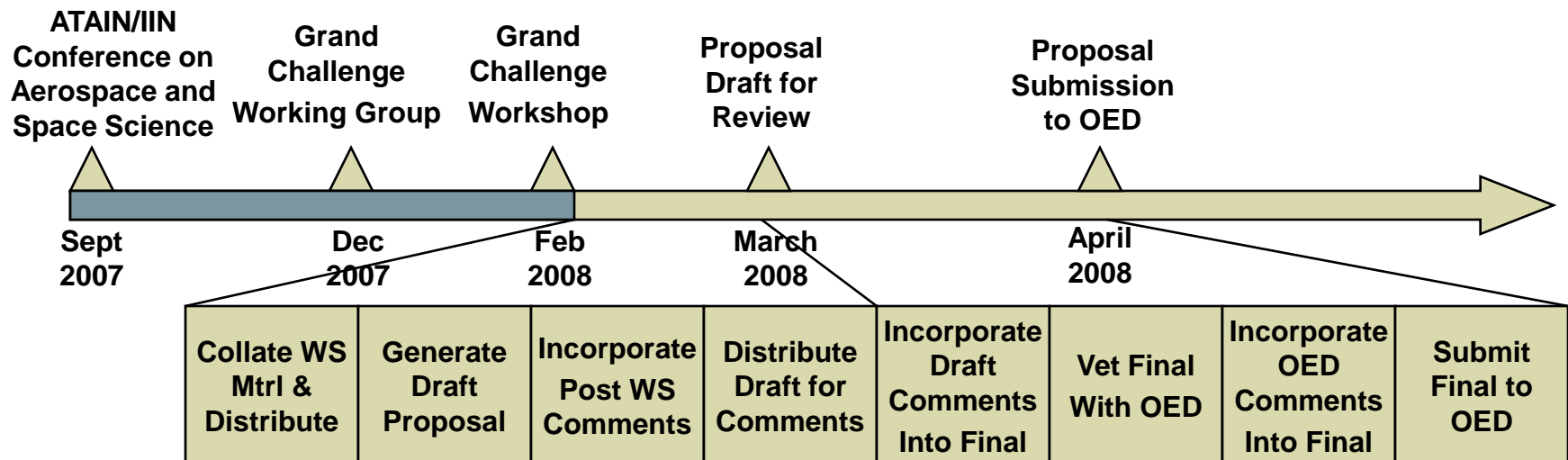
Agenda

- 2:00 Welcome & Leader Introductions - Takehara
- Review Agenda
 - State Purpose and Goal of Workshop
 - Revisit Homework Assignment
- 2:15 Workshop Kickoff - Kille
- Describe Workshop Exercise
 - Present Strawman Example & Group Achieves Consensus
 - Form 4 Working Teams
- 2:45 Working Teams Conduct Brainstorming Exercise - Hein
- 3:10 Working Teams Prepare for Outbrief - Hein
- 3:15 Conduct Working Groups Outbriefs - Kille
- 5 Minutes Each
- Group Adds Additional Inputs
- Group Multi-Voting for “Output Choices”
- 3:50 Closing Comments / What’s Next - Takehara
- 4:00 Wrap-up

Welcome:

Workshop Purpose and Goal

- To define and propose an Indiana Space Defense Electronics Grand Challenge which will:
 - Produce major breakthroughs in science and engineering
 - Exploit innovative and emergent technologies and approaches
 - Bring many organizations, people of all types together in collaboration
 - Solve a problem of monumental impact to society
 - (State, Regional, National, Worldwide)
 - Be the start of a major paradigm shift in society and the scientific world
 - (We can point to it years later of it being a major landmark/milestone in history.)
 - Put Indiana “on the map” with international attention
 - Be a catalyst making a huge difference that is seen by many
 - Provide leadership to the world
 - Examples: Human genome project, Manhattan project



Welcome

Homework/Questionnaire Review

- What are potential topics for an IN Grand Challenge in Space/Defense Electronics?
 - Type of problems: categories (operational problem vs technology problem) as well as specific problems
 - Type of capabilities to be demonstrated
- What places in IN are there for validation/testing of a Grand Challenge?
- What ground space is available in IN to support a Grand Challenge?
- What are the potential funding opportunities/sources?

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Workshop Kickoff – Describe Workshop Exercise

- Keep your homework details and send them in after the meeting
- Going to do a short lead-in group activity
 - Brief overview of a strawman scope and concept to get the mental juices going
- Break apart into smaller groups to flesh out specific areas of the strawman
 - Demonstration event locations (Where to demonstrate approaches)
 - Challenge details and scoring (How to measure success)
 - Grand Challenge process flow (Rules of the Game)
 - Award Funding Options (Who might sponsor)
- Groups should
 - Pick a leader to outbrief
 - Generate outbrief results
- Recombine for workshop outbriefs

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Grand Challenge Scenario Strawman

■ Setting:

- *What is the virtual event to drive the challenge?*
 - Severe Earthquake in southern Indiana and Indianapolis disrupts connectivity with area (collapsed roads, electrical power disrupted, communications disrupted, etc.)
- *What are the challenges being addressed in the Setting?*
 - Communications Disruption

■ Demo Event Location:

- *Where will the empirical demonstrations be conducted?*
 - Camp Atterbury/MUTC ground and airspace complex with participation by surrounding communities (Columbus and Jennings County)
 - State Parks

Grand Challenge Scenario Strawman (cont.)

■ Challenge Details & Scoring:

- *What are the details of the challenge categories?*
 - Comm: To re-establish all disrupted communications to area immediately with bridging techniques and approaches that will effectively and efficiently transform back into the latent infrastructure with minimal cost, time, and effort.
- *How are we going to measure success? (Metrics)*
 - Comm: Time to communications recovery without any existing latent infrastructure within area of interest
 - Comm: Ability to transition back to steady state latent infrastructure in the shortest amount of time and with the smallest amount of cost and effort.

Grand Challenge Scenario Strawman (cont.)

- Grand Challenge Process Flow:
 - *How to solicit participation and good ideas and reward them?*
(Rules of the Game)
 - Solicit whitepaper submissions
 - Operational analysis of tendered approach for solving problem
 - Evaluation by IDHS, IOED, and Federal Stakeholders with published rankings of best approaches
 - A monetary award depending on placement
 - Solicit empirical exercise submissions
 - Operational validation of immediate communications reconstitution approaches with ties to legacy infrastructures accompanied by plan showing transition of communications back to latent infrastructures
 - Evaluation by IDHS, IOED, and Federal Stakeholders with published rankings of best approaches
 - A Monetary award depending on placement
 - Repeat process if achieved metrics unsatisfactory for Indiana State officials
- Award Funding Options:
 - *Who should be approached as stakeholders and sponsors?*
 - Foundation and Corporate sponsorships
 - State Grants
 - Federal Grants

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What now?

- First, the results of this workshop will be compiled and published to all those who have signed the attendance registry.
- What to do if...
 - You have comments, suggestions or ideas that didn't have the opportunity to get surfaced during this workshop
 - Or you have some of these in the next 2 weeks
- Then...
 - Please capture them and email them to Don Takehara, Brose McVey, and Tim Morris
- These will be merged with the results of this workshop and compiled into a draft Indiana Grand Challenge proposal and published to all those who have signed the attendance registry for review and comment.
 - Comments will be sent to Don Takehara, Brose McVey, and Tim Morris
- The Final proposal will incorporate draft review comments and vetted with OED representatives
 - Final comments will be incorporated and the proposal will be submitted to OED.
- Any Questions, please feel free to contact Don Takehara, Brose McVey, or Tim Morris

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 - 260-429-4203
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 - Timothy_R_Morris@Raytheon.com
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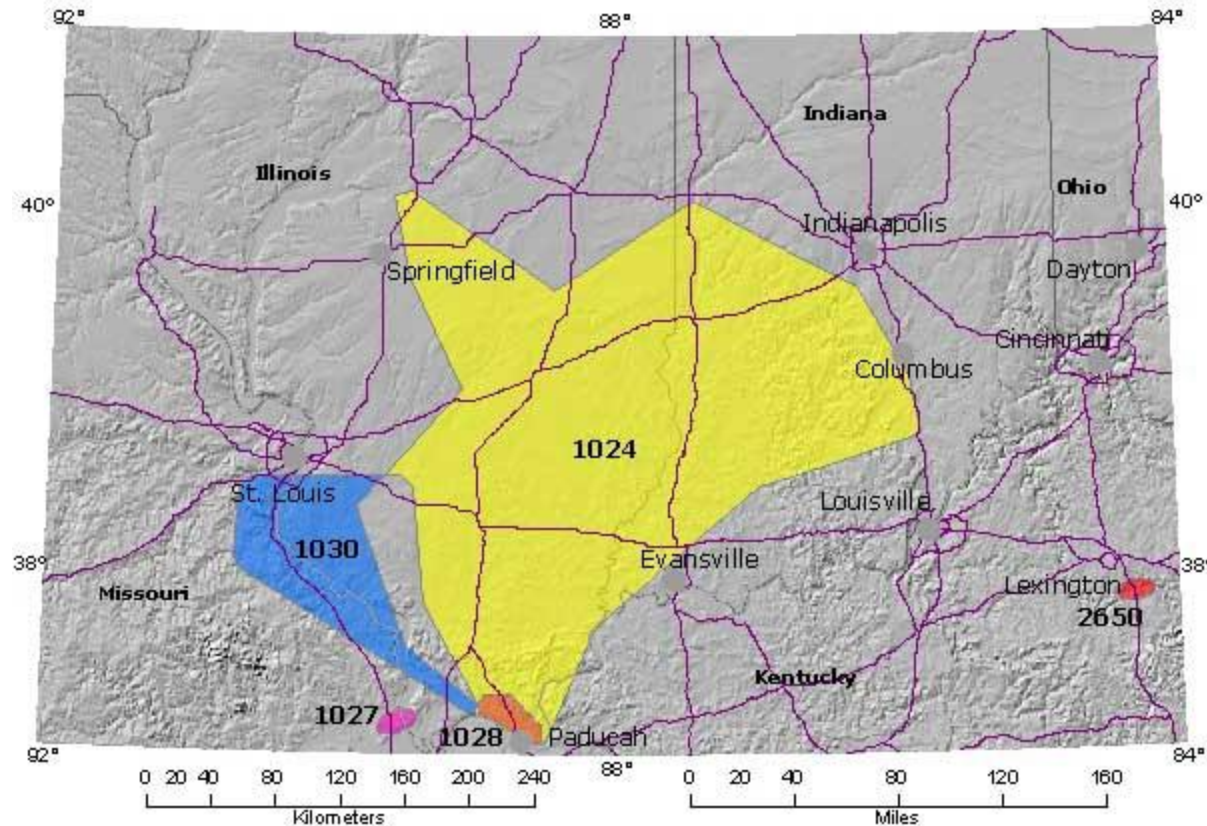


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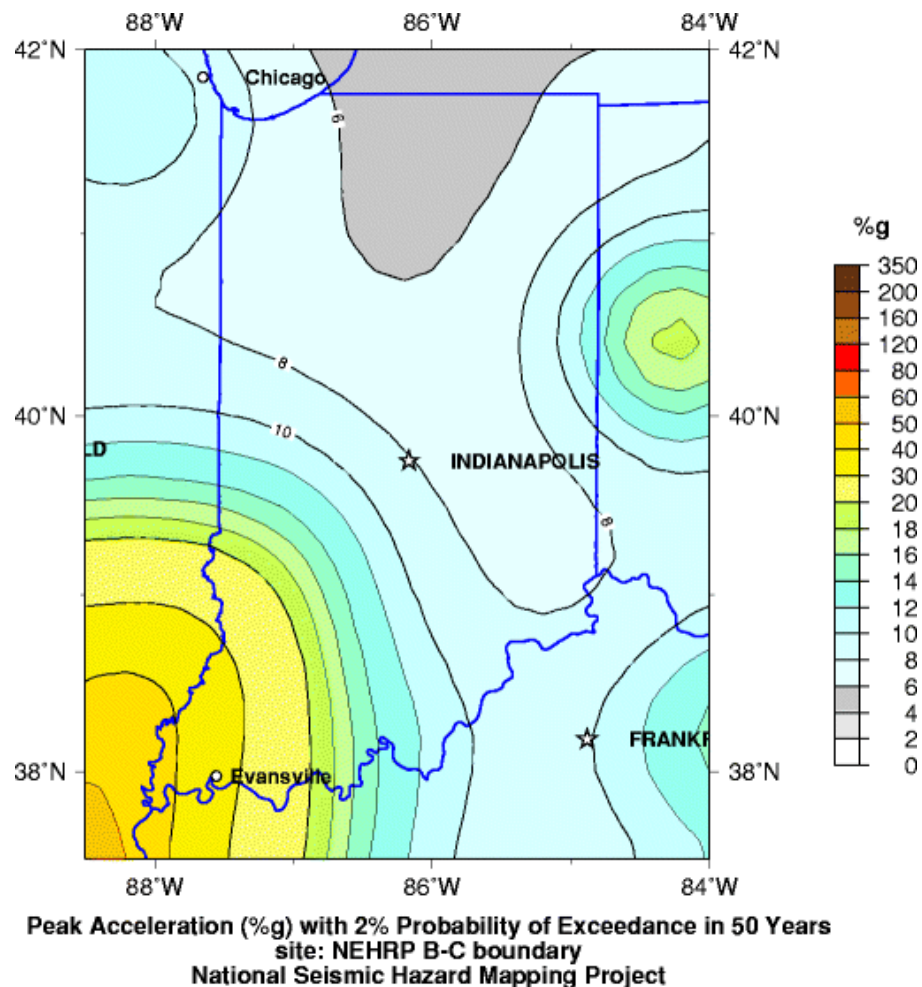
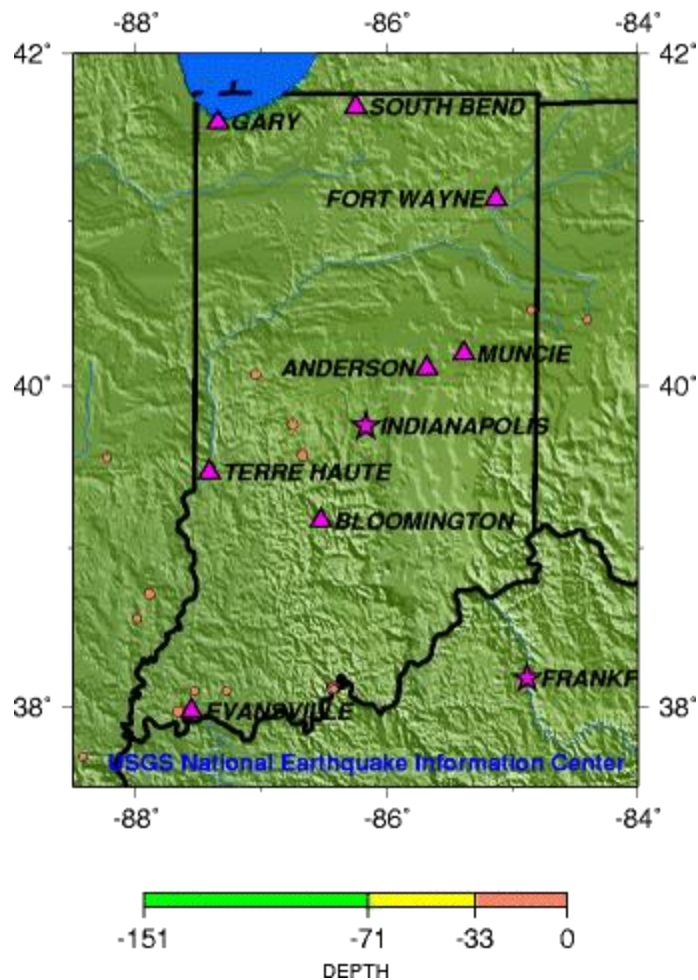
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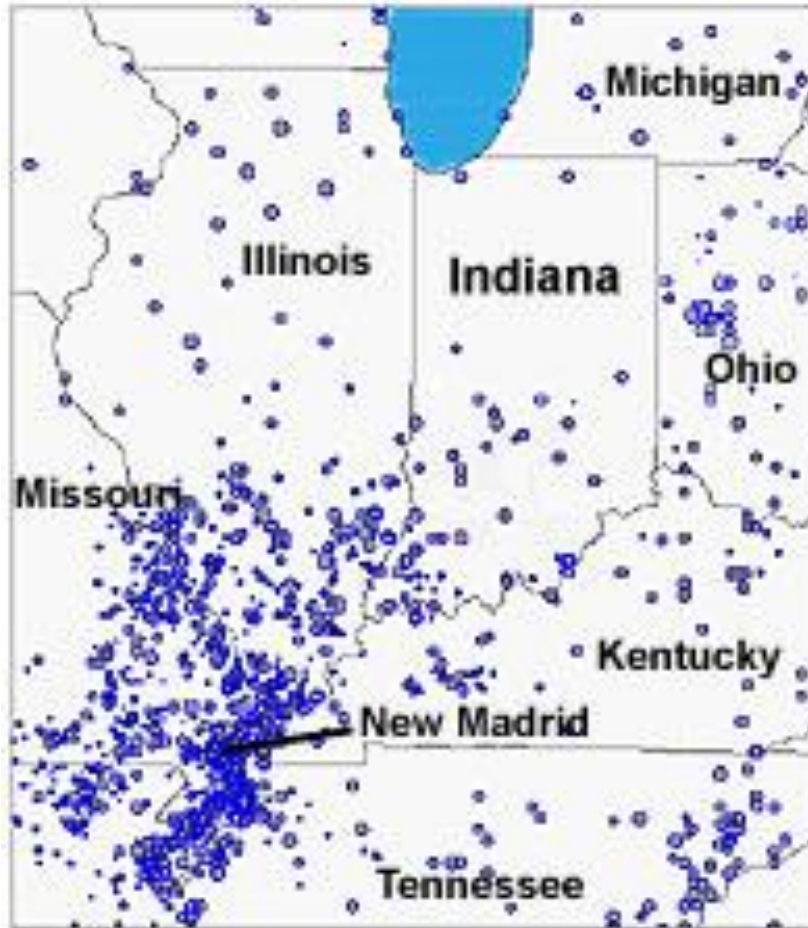
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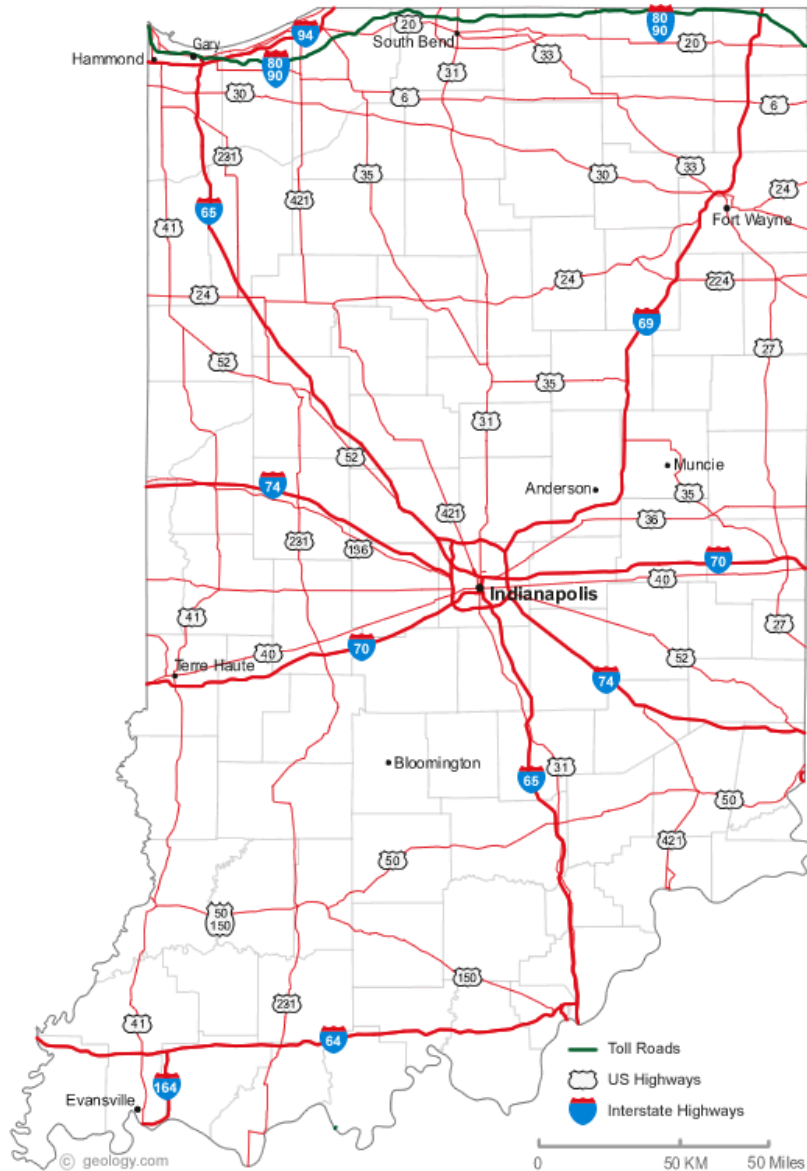
<http://earthquake.usgs.gov/regional/qfaults/eusa/ill.php>

Seismicity of Indiana 1990 - 2001





Map showing felt earthquake epicenters in Indiana and surrounding states from 1800 to 1995. Relative strength of the earthquakes is indicated by the size of the circles. Modified from Bear, Rupp, and Rudman, 1997



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